

REMARKS

Support for the Amendment

The amendment to claim 39 finds support on page 3, lines 14-21 and page 5, lines 24-25.

The Office Action

Claims 20-39 are pending. Claim 39 stand rejected for anticipation by Ehret (U.S. Patent No. 6,159,724). Claims 20-39 stand rejected for obviousness over Geneix et al. (U.S. Patent No. 4,765,992; hereafter “Geneix”) in view of Applicant’s admissions.

Specification

The Examiner has objected to the amendment to the specification filed November 21, 2000 as introducing new matter. This objection should be withdrawn because the amendment finds support in the PCT application as originally filed. A copy of the published version of the application has been included for the Examiner’s convenience.

Drawings

As requested by the Examiner, formal drawings are submitted herewith.

Rejections under 35 U.S.C. § 102

Claim 39 stands rejected for anticipation by Ehret. Claim 39 has been amended to include the limitation that the mineral is a divalent metal. The sodium present in the sea

salt employed in Ehret is a monovalent metal and thus distinct from the mineral of amended claim 39. The rejection may be withdrawn.

Rejections under 35 U.S.C. § 103(a)

Claims 20-39 stand rejected for obviousness in view of Geneix and Applicant's admission. This rejection should be withdrawn.

The present invention features a fermentation composition including a fermentation microorganism and a mineral-rich or mineral-enriched yeast and its use in an alcoholic fermentation. Fermentations using this composition proceed at a faster rate than the prior art methods and avoid undesirable aspects of the prior art.

In order for there to be a *prima facie* case of obviousness, there must be some motivation to combine the references, and the prior art references must teach or suggest all of the claim limitations (M.P.E.P. § 2142). This standard has not been met in the present case.

There is no motivation to combine the references. Geneix describes the use of cell walls or yeast ghosts to remove toxic substances from alcoholic fermentation. Geneix further states:

During the alcoholic fermentation of grape must, the growth and metabolism of yeast are progressively inhibited. This results in the spontaneous halting of fermentation before all the sugar in the medium is broken down.

Experiments have shown that this is not due to nutritional shortages (although the only treatments previously recommended tended to enrich the medium nutritionally) but to toxic substances released by the yeast itself. (Emphasis added) (Col. 2, ll. 11-19)

Thus, one skilled in the art reading Geneix would not be motivated to add nutritional supplements such as minerals because Geneix teaches that nutritional shortages are not responsible for the halting of fermentation. Furthermore, the mere use of free mineral salts (i.e., dissolved in solution) in alcoholic fermentation, as described by Applicant, does not provide motivation for the addition of yeast ghosts or indeed any other additive.

The prior art does not teach or suggest all of the claim limitations of independent claims 20 or 39. Claim 20 recites:

A method for alcoholic fermentation, said method comprising employing in said fermentation:
a) a fermentation micro-organism; and
b) at least one mineral-rich or mineral-enriched yeast;
wherein said mineral-rich or mineral-enriched yeast provides a nutrient source for said fermentation.
(Emphasis added)

Claim 39, as amended, recites:

A fermentation composition comprising a fermentation micro-organism and at least one mineral-rich or mineral-enriched yeast, wherein said mineral is a divalent metal, which is provided by the yeast to the fermentation micro-organism in an effective amount.
(Emphasis added)

The yeast in both of the independent claims is mineral-rich or mineral-enriched, i.e., the cells of the yeast contain a higher concentration of a mineral than ordinary yeast. Geneix uses cell walls or yeast ghosts that have been boiled or autolysed and washed (Col. 2, ll. 3-7). As the Examiner notes, Geneix does not mention “any other compatible additive” that may be added to the yeast in their fermentation process. Geneix thus does not teach or suggest the addition of any mineral nutrients with the yeast ghosts, much less the use

of mineral-rich or mineral-enriched yeasts, as required by claims 20 and 39. The prior art use of free mineral salts in fermentations does not remedy this deficiency. The combination (even if appropriate, which Applicant does not concede) of the teachings of Geneix and the prior art use of free mineral salts in a fermentation process produces at best a mixture of yeast ghosts and free minerals. In contrast, the claimed invention provides a mineral-rich or mineral-enriched yeast that provides the mineral to the fermentation in an effective amount together with a fermentation organism.

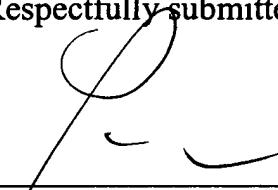
In addition, data presented in the present specification clearly show Applicant's methods and compositions to be superior. For example, Tables 3 and 4 on pages 19 and 20 of the present specification show data indicating that the zinc-enriched yeasts of the invention (sample 1, denoted "Zinc Yeast") produce faster fermentation than free zinc in combination with dead yeast (sample 5, denoted "Dead Yeast + Zinc chloride"). Thus, the formulation of yeast required by claims 20 and 39 is distinct from and superior to that which would be formed by the combination of the cited art.

In sum, there is no motivation to combine the cited art, and even if there were, the prior art does not teach the yeast formulations required by the instant claims. The rejection for obviousness should be withdrawn.

CONCLUSIONS

Applicants submit that the claims are in condition for allowance, and such action is respectfully requested. Enclosed is a petition to extend the period of reply for three months, to and including September 5, 2002. If there are any additional charges, or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,



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Version with Markings to Show Changes Made

A marked up version of claim 39 is as follows:

39. (Amended) A fermentation composition comprising a fermentation micro-organism and at least one mineral-rich or mineral-enriched yeast, wherein said mineral is a divalent metal, which is provided by the yeast to the fermentation micro-organism in an effective amount.